



Castlecroft Primary School



Computing Policy

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Computing at Castlecroft:

The use of information and communication technology is an integral part of the national curriculum and is a key skill for everyday life. Computers, tablets, programmable robots, digital and video cameras are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. We recognise that pupils are entitled to quality hardware and software and a structured and progressive approach to the learning of the skills needed to enable them to use it effectively.

Aims & Objectives:

Overview of Subject

At Castlecroft Primary School we want our children to understand the potential of technology and start to build computing skills for the future. We want them to become digital creators, using technology to support other areas of their work and lives, and also to understand the responsibilities of being digital consumers on their time, relationships and wellbeing. We know the digital workplace is continuously evolving and want them to grow up knowing and understanding the role of software engineers, video game designers, web developers and IT consultants in today's Society. At Castlecroft, our Computing curriculum strives to develop resilient, reflective, creative and independent learners. It gives space for children to become "computational thinkers", tackling complex problems, making mistakes and learning from them. It also engages our children, through the creative use of technology, to prepare pupils for the demands of the 21st century and the technological world that awaits them in the future. As well as the huge potential of technology, we teach our children to understand the challenges and problems it can create. We teach them to become good digital citizens, to know how to stay safe and keep others safe online, to be aware of the need to test out what and who they see and the importance of what they share in creating their own digital footprint.

At Castlecroft we believe that computing should be embedded across the curriculum enabling children to develop their skills in many forms and in different subjects. Computing is a vital tool for learning and should be creative and productive enabling all learners to excel and succeed. We believe that our engaging and motivating computing curriculum will allow our learners to become digitally literate for lifelong learning in our modern world.

How this policy was put together:

This policy was drawn together by the subject leader with support from Squirrel Education working alongside a member of the Senior Leadership team. Staff, governors and pupils were consulted on the policy before it was adopted by the full governing body. The policy will be reviewed and put before governors at least every two years but more regularly where key changes are made.

Key roles in Computing:

The Computing Leader is responsible for:

- ✓ this policy and its implementation including supporting staff in the delivery of Computing.
- ✓ ensuring that the governing body is kept up to date with any actions and initiatives that are relevant to the subject.
- ✓ writing the relevant part of the School Improvement Plan (SIP) and providing the headteacher and governing body with regular reviews of the SIP.
- ✓ completing activities to monitor the quality of Computing education and use this to identify staff training needs and arrange or deliver CPD
- ✓ Seeking out opportunities to inspire staff in developing their practice through modelling and sharing new ideas, approaches and initiatives.
- ✓ To keep up to date with current good practice and with national changes within the Computing curriculum.
- ✓ Attending training and keeping abreast with the latest educational technology initiatives.
- ✓ Using nationally recognised standards to benchmark Computing.
- ✓ To evaluate and update the Policy and Scheme and resources on a regular basis.
- ✓ To manage a budget to purchase in line with the school's needs.
- ✓ Ensuring all relevant documentation and evidence for Computing initiatives are available to be put on the school website.
- ✓ To support members of staff in the use of effective planning, assessment and recording systems.
- ✓ To maintain a high standard of Computing teaching in his/her own classroom and ensure that Computing keeps a high profile within the school.

- ✓ Working as needed with the SENCO/Head Teacher to ensure online safety provision is above adequate and all legislation is in place.
- ✓ Seeking out opportunities to inspire staff in developing their practice through modelling and sharing new ideas, approaches and initiatives.

The Governing body are responsible for:

- ✓ ensuring the effective delivery of the National Curriculum in Computing
- ✓ ensuring the effective delivery of the planned Computing curriculum
- ✓ identifying a link governor to liaise with the Computing co-ordinator and update the governing body with regular link governor reports annually.

Intent:

At Castlecroft, we aim to prepare our learners for their future by giving them the opportunities to gain knowledge and develop skills that will equip them for an ever-changing digital world. Knowledge and understanding of technology and computing is of increasing importance for children's future both at home and for future employment; equipping children with the capability to use technology throughout their lives is a key skill for their future.

Our intention is that Computing also supports children's creativity and cross curricular learning to engage and enrich their experiences in school. We encourage the use of computational thinking to help formulate and problem solve beyond the Computing curriculum.

We aim to use technology imaginatively and creatively to inspire and engage all pupils, as well as using it to be more efficient in the tasks associated with running an effective school while providing technology solutions to for forging better home and school links.

We aim to equip pupils with skills, strategies and knowledge that will enable them to reap the benefits of the online world, whilst being able to minimise risk to themselves or others. Online safety and PSHE units of work features heavily within our computing curriculum and links are made to reinforce pupils' knowledge and understanding within these areas.

We teach pupils to understand the importance of governance and legislation regarding how information is used, stored, created, retrieved, shared and manipulate, while learning to become responsible, respectful and competent users of data, information and communication technology.

Implementation:

At Castlecroft we primarily use the Purple Mash scheme of work but incorporate and combine other schemes to best suit the needs of our children; Examples include: Blockly, and Scratch.

Computing units are categorised into elements of Digital Literacy, Computer Science and Information Technology. Children complete computing units half-termly, but digital literacy is embedded in all subjects and is used to enhance and

support the learning of other curriculum areas (see Contribution of PE to other curriculum areas **section**), while other more basic skills such as keyboard and typing, e-mail logging and saving, are regularly revisited throughout the year. Topics are blocked to allow children to focus on developing their knowledge and skills, studying each topic in depth. Classes are timetabled a dedicated Computing lesson once a week delivered through a combination of class teachers and the school Computing coordinator. Key Stage 2 receive a lesson from the Computing Coordinator and KSI through the Class Teacher with support from the Computing Coordinator.

Each lesson contains revision, analysis and problem-solving. Through the sequence of lessons, we intend to inspire pupils to develop a love of the digital world, see its place in their future and give teachers confidence.

All children have the access to an inclusive curriculum. Support is provided for SEND children in line with other subjects meaning every child access consistent opportunity and input across the school.

The Purple Mash Scheme supports all requirements of the National curriculum and provides specialist and non-specialist teachers with lesson plans, assessment opportunities, clear progression and engaging activities and resources. The Purple Mash Scheme supports all requirements of the National curriculum A progression of skills is used with each year group, which enables pupils to build on and develop their skills each year for each area, with regular assessments in each lesson.

Topics are extended and built upon through workshops delivered by Squirrel Education. In add to delivering lessons that extend the learning of a particular topic, they also provide CPD support to staff to help them develop and extend the skill base of staff.

Children evaluate and reflect upon their own performance as well as the success of their peers and are also encouraged to set their own challenges in order to achieve a personal best. We value the benefits of technology and computing to build children's self-confidence, esteem, self-worth and resilience which is character building and essential for our pupil's development as well as helping prepare our children for a future

Our lesson plans and resources help children to build on prior knowledge at the same time as introducing new skills and challenges. In KSI, the focus is on developing the use of algorithms, programming and how technology can be used safely and purposefully. In KS2, lessons still focus on algorithms, programming and coding but in a more complex way and for different purposes. Children also develop their

knowledge of computer networks, internet services and the safe and purposeful use of the internet and technology. Data Handling is featured more heavily in UKS2. Skills learnt through KSI and LKS2 are used to support data presentation.

Teachers follow a clear progression of skills which ensure all pupils are challenged inline with their year group expectations and are given the opportunity to build on their prior knowledge.

As well as the huge potential of technology, we teach our children to understand the challenges and problems it can create. We teach them to become good digital citizens, to know how to stay safe and keep others safe online, to be aware of the need to test out what and who they see and the importance of what they share in creating their own digital footprint. This is done through established links with our PSHE Curriculum and dedicated E-Safety topics covered each Year and revisited every half term. In addition to using Purple Mash we also use ProjectEVOLVE which is a toolkit is based on the UKCIS framework “Education for a Connected World” (EFACW). This framework covers knowledge, skills, behaviours and attitudes across eight strands of our online lives from early years right through to eighteen. These outcomes or competencies are mapped to age and progress. The statements guide educators to the areas that they should be discussing with children as they develop their use of online technology.

Computing Topic Overview

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	Online Safety – through PSHE Safer Internet Day Programming – using B-Bots Use of Google Earth Technology around us Use of the Interactive Whiteboard Music – Ipads					
Year 1	Online Safety: Staying safe online	Technology in the home and wider world	Safer Internet Day Maze explorers	Pictograms	Lego builders	Coding
Year 2	Online Safety: Digital footprint E-mail introduction	Effective searching/using the internet	Safer Internet Day Creating pictures	LOGO	Spreadsheets & graphs	Coding
Year 3	Online Safety: passwords,	Search engines & Research	Safer Internet Day	Coding	Digital Publishing	PowerPoint

	websites and age restrictions				(Incl Squirrel workshop)	
		PowerPoint	Spreadsheets Science: data work		Databases	
Year 4	Online Safety: Phishing, malware & Screen time	LOGO	Safer Internet Day	Coding (Incl Squirrel workshop – Coding & Robotics)	Animation	Creating Music <u>New Module – Artificial Intelligence</u>
	Research & Search engines	Hardware & parts of a computer	Spreadsheets		Science: Research	
Year 5	Online Safety: Sharing Digital Content		Game Design Programming (incl Squirrel workshop)	Safer Internet Day	Coding	
		Word Processing		Science: research		Design & Make – 2d Modelling
Year 6	Online Safety: Digital footprint Science: research	Networks & the Internet	Safer Internet Day	Blogging	Binary	Spreadsheets
	Digital Ambassadors chosen	Science/D&T: Research & PowerPoint	Advanced animation (Squirrel workshop)			

Project Evolve Online Safety Topic Guide

Autumn 1	Spring 1	Summer 1
Online reputation Privacy and Security	Self-image and Identity	Online Relationships
Autumn 2	Spring 2	Summer 2
Copyright and Ownership Anti-Bullying themed week – Online Bullying	Managing Information Online	Health, Well-being and Lifestyle

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Hardware and equipment

All children have access to both iPads and Laptops to allow them to gain experience and develop skills using different platforms and operating systems. This also allows children to develop basic mouse and keyboard skills as well as touch screen systems.

Assessment and record keeping

Teachers regularly assess capability through observations and looking at completed work. Key objectives to be assessed are taken from the national curriculum to assess key computing skills each term. Assessing ICT and computing work is an integral part of teaching and learning and central to good practice. As assessment is part of the learning process it is essential that pupils are closely involved.

Computing work is stored through combination of the school network, printed paper copies of work and paper-based activities and programme specific storage.

Digital Ambassadors

Upper Key Stage 2 can apply to become Digital Ambassadors. These children are trained to support children that may encounter issues online. They hold informative assemblies for children, aid in data collection, push school initiatives and report any issues that they are told to a member of staff. Our trained Digital Ambassadors become the pupil voice and they work with classes throughout the year as well as staff and parents.

Security and E-Safety (see also E-Safety, Safeguarding & Child Protection Policies)

- Concerro are responsible for regularly updating anti-virus software and Filtering Software.
- Use of ICT and computing is in line with the school's 'acceptable use policy'. All staff, volunteers and children must sign a copy of the schools AUP (See Appendix).
- Parents will be made aware of the 'acceptable use policy' at school entry

- All pupils are aware of the school rules for responsible use on login to the network and understand the consequence of any misuse.
- The agreed rules for safe and responsible use of ICT and computing and the internet are displayed in all ICT and computing areas as well as Windows Logons of all Laptops and Computers.
- SMART Rules – At Castlecroft, staying safe online is reenforced through the adoption of the SMART rules. These are taught and regularly revisited throughout each year group (Stay Safe, Don't Meet Up, Accepting Files, Reliable? Tell Someone).
- 360 Degree Safe Review Tool - The 360-degree safe self-review tool is a free tool used to help review our online safety policy and practice. It provides:
 - Information that can influence the production or review of online safety policies and develop good practice.
 - A process for identifying strengths and weaknesses.
 - Opportunities for commitment and involvement from the whole school.
 - A continuum for schools to discuss how they might move from a basic level provision for online safety to practice that is aspirational and innovative.

Resources

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards a consistent, compatible system by investing in resources that will effectively deliver the strands of the national curriculum and support the use of computing across the school. Teachers are required to log any faults as soon as they are noticed via the Concero job booking system. A service level agreement with Concero is in place to help support the Concero technician and school.

All resources are regularly reviewed in order to ensure they are appropriate to the range of ages, abilities and needs of the children in order to enhance learning. A specific budget is available to computing each year. Resources should be counted out and counted in, returned in good condition and working order.

Any damage, breakage or loss of resources should be reported to the Computing Coordinator as soon as possible. Any damaged piece of equipment must be removed immediately from use and reported to the Computing coordinator.

Impact:

We assess children's work in computing by making informal judgements and giving verbal feedback as we observe them during lessons. An assessment is recorded in the pupils' end of year report.

By implementing a monitoring & reviewing assessment system of Computing through the use of the Purple Mash Scheme, we can measure the impact and progress of the quality & provision within our school which will lead to overall whole school improvement. We strive to ensure that our pupil's attainment is in line or exceeds their potential when we consider the varied starting points of all our children.

Teachers have high expectations and quality evidence will be presented in a variety of forms. Children will use digital and technological vocabulary accurately, alongside a progression in their technical skills. They will be confident using a range of hardware and software and see the digital world as part of their world, extending beyond school, and understand that they have choices to make. They will be confident and respectful digital citizens going on to lead happy and healthy digital lives.

Staff ensure that skills build on those that have been attained in previous years to consolidate and build on them as they move through school. Children at Castlecroft follow the National Curriculum for PE and work at levels appropriate to their ability. It is expected that most children will achieve the standard of the appropriate End of Key Stage Description. In the teaching and learning of PE we can identify a number of objectives.

Early years

It is important in the foundation stage to give children a broad, play-based experience of ICT in a range of contexts, including outdoor play. Computing is not just about computers. Early years learning environments should feature ICT

scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to explore using non-computer-based resources such as metal detectors, controllable traffic lights and walkie-talkie sets. Recording devices can support children to develop their communication skills. This is particular useful with children who have English as an additional language.

By the end of key stage 1 pupils should be taught to:

- Understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions
- Write and test simple programs
- Use logical reasoning to predict and computing the behaviour of simple programs
- Organise, store, manipulate and retrieve data in a range of digital formats
- Communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school.

By the end of key stage 2 pupils should be taught to:

- Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs
- Use logical reasoning to explain how a simple algorithm works and to detect and correct errors in algorithms and programs
- Understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration
- Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely
- Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

The national curriculum for computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication

- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- Are responsible, competent, confident and creative users of information and communication technology.

Contribution of Computing to other curriculum areas:

English

Publishing copies of writing, use of e-mail.

Mathematics

Input and analysis of data, use of spreadsheets and databases and co-ordinates.

Science

Research and presentation.

Humanities

Research and presentation.

PE

IT is used in PE where appropriate with particular focus on improving performance and peer reviews through the use of videoing, recording and playback.

Personal, social and health education (PSHE) and citizenship

Our Computing curriculum links closely with our PSHE curriculum and contributes significantly to the teaching of personal, social, citizenship and health education. Children learn to understanding social media and treating each other respectfully and fairly through the use of social media, they learn about staying safe online and how to raise issues such as online bullying and the issues relating to screen time.

SMSC Development:

At Castlecroft, we recognize that spiritual, moral, social and cultural education is central to the education of all pupils and permeates the whole curriculum and ethos of the school. It is reflected in the behaviors of individuals and in their interactions and also in the provision of teaching resources and learning environments

SMSC is taught through and reflected in our Computing curriculum in many ways. Some of these are listed below but Computing is a continually developing subject area and this list is continually growing and developing:

- Computing is a key opportunity for children to develop morally, spiritually, socially and culturally. In Computing lessons, children are invited to reflect on their personal responses to issues and consider other people's responses.
- Computing provides opportunities for reflection of awe and wonder about the achievements in ICT today and the possibilities for the future.
- Pupils explore the effects of social networking and the consequences of cyber bullying; they also consider the legal aspects of ICT including the Data Protection Act, Computer Misuse Act and Copyright legislation.
- Computing helps pupils to express themselves clearly and to communicate.
- Computing enables pupils to explore how developments in technology have changed our culture, particularly the rise in social networking sites and the ability to communicate instantly across National and International borders.

Equality and Inclusion:

All pupils are entitled to access the Computing curriculum at a level appropriate to their needs and abilities. Teachers plan and follow well-structured lessons from the Purple Mash scheme and use a range of strategies to ensure full accessibility and sufficient challenge for all. The school makes efficient use of additional adults, deployed effectively to ensure that our curriculum is accessible for all.

Pupils with Additional Needs

As with all other Curriculum areas, we seek to ensure equality of access for our children with special needs, to the same educational opportunities as those available to the rest of the population. SEND children have an entitlement to a broad, balanced curriculum, which is relevant to their needs, and which is delivered using reasonable adjustments where appropriate to help them access quality teaching and learning. Our SEND children-including our visually impaired (VI) children- will have activities and resources adapted by SEND support staff, VI support staff and teachers.

In order to provide quality first teaching, it may be necessary to enhance the curriculum and resources available to pupils with special educational needs. Where necessary the PSHE lead will contact Outreach and the Nurse team (or the Wolverhampton SEND Nurse) for specialist advice and support with adapting teaching (especially for pupils on an EHCP plan, or with Complex SEND).

At our school we teach Computing to all children, whatever their ability. Computing forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our Computing teaching we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels.

To ensure inclusion:

- as a school with a VI base, we are committed to ensure full inclusion for our VI pupils who are taught in class alongside their peers. These pupils are only withdrawn for specific needs such as mobility lessons. One to one support in lessons as appropriate, alongside quality modified resources ensures that these pupils make good progress and attain well.
- pupils or groups of pupils with additional needs or those who are under-achieving are identified through our assessment system and appropriate intervention carefully planned and monitored for impact.
- teachers and teaching assistants are all aware of disadvantaged pupils ensuring that they are targeted for support in lessons ensuring that they perform in line with non-disadvantaged pupils in the same ability band.
- children with identified SEND (including pupils with an EHCP) should be supported as and when they need it
- our number of EAL children is significantly below the national average however advice is sought, and support will be given to these children should they need it
- Some children in school are unable to access a subject specific curriculum and in this case their learning is guided, and progress tracked, by the engagement model in line with government guidelines. Children within this group who have a diagnosis of ASD will have their small steps of progress tracked using SCERTS.

Equal opportunities statement:

At Castlecroft Primary School we are committed to providing a teaching and learning environment which ensures equal access to our Computing curriculum regardless of social class, gender, ethnicity, culture, home background, special

need or disability. We are committed to enabling all pupils to reach their full potential.

The Equality Act (2010) sets out anti-discrimination law in the UK replacing all previous equality legislation. It introduces the term “protected characteristics”. The protected characteristics are: age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, pregnancy and maternity, and marriage and partnerships.

In our Computing curriculum, we aim to promote equal opportunities with all our children and staff and offer equal opportunities to anyone who identifies with one or more of these characteristics. We aim to foster good relations between people who share a protected characteristic and those who do not. Our Computing curriculum follows the Project Evolve framework to help cover the knowledge, skills, behaviours and attitudes across 8 strands of our online lives. These strands cover online reputation, self-image and identity, online relationships, online bullying and health, well-being and lifestyle from early years through to Year 6.

Monitoring, Evaluation and Review

At Castlecroft it is important to us to monitor and review the Computing curriculum. We regularly review our practice. Links with schools in the city, who are models of good practice, help to shape next steps and affirm good practice. We also have close links with the Squirrel Education and Concero UK who offer curriculum advice and support including a comprehensive continuing professional development offering.

Internal monitoring systems provide the Computing leader with a clear view of Computing provision and its impact in school.

We do this by:

- the subject leader is involved in supporting colleagues in the teaching of Computing, being informed about current developments in the subject
- children will be responsible in taking part in self-assessment activities
- the subject coordinator annually reviews the teaching and learning of Computing in schools for the School Development Plan
- the Computing subject leader visits classes and to observe teaching and learning in the subject

- staff training will take place where teachers work together collaboratively to assess music involvement and teaching in school
- teachers will upload work on the schools shared area and in Purple Mash which they can be accessed by other teachers if needed when looking at progression or evidence.
- Squirrel Education provide workshops for both whole class and teachers to enable them to improve their CPD.Squirrel Education provide access to training for an E-Advocate (a member of staff who attends workshops and then acts as support for the Computing coordinator.

Parental Involvement:

Parents play a role in the development of Computing skills. We aim to foster a strong home-school partnership and offer support for parents.

Purple Mash is available to access at home so children may access work and extend their learning.

Families at our school use technology responsibly, in line with the school's acceptable use policies. All families sign the Acceptable Use Agreement when they begin their Castlecroft journey.

Many parents engage with the school's social media channels to keep up-to-date developments that are happening in school.

Computing Coordinator
Mr J Morgan

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